

ABSTRACT

A method of manufacturing an EEPROM device is disclosed. An example method forms a screen oxide film on a semiconductor substrate, forms a first ion implantation mask defining a gate insulating film forming region on the screen oxide film, and performs a first ion implantation on the semiconductor substrate and the first ion implantation mask. The example method also performs a first annealing of the semiconductor substrate, removes the screen oxide film and the first ion implantation mask, and forms a gate oxide film on the semiconductor substrate. In addition, the example method forms a second ion implantation mask defining a gate insulating film forming region on the gate oxide film, performs a second ion implantation on the semiconductor substrate and the second ion implantation mask, performs a second annealing for the semiconductor substrate, removes the second ion implantation mask; and forms a tunnel oxide film on the gate oxide film.